

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:	HAGLE et al.	:	Confirmation No. 3432
		:	
Application No.:	10/603,704	:	Group Art Unit: 3726
		:	
Filed:	June 25, 2003	:	Examiner: Eric COMPTON
		:	

For: METHOD FOR IMPROVING THE WEAR RESISTANCE OF A SUPPORT REGION  
BETWEEN A TURBINE OUTER CASE AND A SUPPORTED TURBINE VANE

**RESPONSE UNDER 37 C.F.R. 1.116**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Please consider the following Response for the above-referenced Application.

**INTRODUCTORY COMMENTS**

This Response is filed in response to the Final Office Action dated April 18, 2006.

The **Amendments to the Specification**: None.

The **Amendments to the Claims** section begins on page 2 of this Response and any amendments to the claims are reflected in the listing of the claims included therein.

The **Amendments to the Drawings**: None.

The **Remarks/Arguments** section begins on page 5 of this Response.

The **Conclusion** section begins on page 8 of this Response.

The application is not amended. The following claim set is provided for reference.

1. (Original) A method for fabricating a wear-resistant assembly of a turbine outer case and a turbine vane, comprising the steps of:  
providing  
a turbine outer case, and  
a turbine vane that, when assembled, is supported on the turbine outer case in a support region whereat a vane-support area of the turbine vane contacts a case-support area of the turbine outer case;  
welding a wear-resistant material to a weld area of at least one of the vane-support area and the case-support area.
2. (Original) The method of claim 1, including an additional step, before the step of welding, of  
removing material from the weld area to which the wear-resistant material is to be applied in the step of welding.
3. (Original) The method of claim 1, wherein the step of providing includes the step of  
providing each of the turbine outer case and the turbine vane made of a nickel-base alloy, and  
wherein the step of welding includes the step of  
selecting the wear-resistant material as a cobalt-base alloy.
4. (Original) The method of claim 1, wherein the step of welding includes the step of  
welding the wear-resistant material to the case-support area.
5. (Original) The method of claim 1, wherein the step of welding includes the step of  
welding the wear-resistant material to the vane-support area.
- 6-7. (Cancel)

8. (Previously presented) The method of claim 1, including additional steps, after the step of welding, of  
assembling the turbine vane to the turbine outer case,  
placing the assembled turbine vane and turbine outer case into service in a turbine engine, thereafter  
taking the assembled turbine vane and turbine outer case out of service, and thereafter  
repairing the weld area using a metal spray technique, there being no weld repair of the weld area after the step of welding and before the step of repairing.

9. (Previously presented) A method for fabricating a wear-resistant assembly of a gas turbine outer case and a gas turbine vane, comprising the steps of:  
providing  
a gas turbine outer case, and  
a gas turbine vane that, when assembled, is supported on the gas turbine outer case in a support region whereat a vane-support area of the gas turbine vane contacts a case-support area of the gas turbine outer case; thereafter  
removing material from a weld area of at least one of the vane-support area and the case-support area; and thereafter  
welding a wear-resistant material to the weld area.

10. (Original) The method of claim 9, wherein the step of providing includes the step of  
providing each of the gas turbine outer case and the gas turbine vane made of a nickel-base alloy, and  
wherein the step of welding includes the step of  
selecting the wear-resistant material as a cobalt-base alloy.

11. (Original) The method of claim 9, wherein the step of welding includes the step of  
welding the wear-resistant material to the case-support area.

12. (Original) The method of claim 9, wherein the step of welding includes the step of  
welding the wear-resistant material to the vane-support area.

13. (Original) The method of claim 9, including additional steps, after the step of welding, of  
assembling the gas turbine vane to the gas turbine outer case,  
placing the assembled gas turbine vane and gas turbine outer case into service in a gas turbine engine, thereafter  
taking the assembled gas turbine vane and gas turbine outer case out of service, and thereafter  
repairing the weld area using a metal spray technique, there being no weld repair of the weld area after the step of welding and before the step of repairing.

14. (Previously presented) A method for fabricating a wear-resistant assembly of a gas turbine outer case and a gas turbine vane, comprising the steps of:  
providing  
a gas turbine outer case, and  
a gas turbine vane that, when assembled, is supported on the gas turbine outer case in a support region whereat a vane-support area of the gas turbine vane contacts a case-support area of the gas turbine outer case; thereafter  
removing material from the case-support area; thereafter  
welding a wear-resistant material to the weld area; thereafter  
assembling the gas turbine vane to the gas turbine outer case;  
placing the assembled gas turbine vane and gas turbine outer case into service in a gas turbine engine; thereafter  
taking the assembled gas turbine vane and gas turbine outer case out of service; and thereafter  
repairing the weld area using a metal spray technique, there being no weld repair of the weld area after the step of welding and before the step of repairing.

15. (Original) The method of claim 14, wherein the step of providing includes the step of  
providing each of the gas turbine outer case and the gas turbine vane made of a nickel-base alloy, and  
wherein the step of welding includes the step of  
selecting the wear-resistant material as a cobalt-base alloy.